

THURSDAY, OCTOBER 20, 1881

GEOGRAPHY, NATIONAL AND INTERNATIONAL

IT seems impossible to get any full and authentic account of the doings of the recent International Geographical Congress held at Venice, so that at present it is difficult to say how much it did for the promotion of the subject with which it is connected. Congratulatory addresses seem to have been a prominent feature, and much time was devoted to the subject of interoceanic canals, with special reference to those across the isthmuses of Panama and Corinth. If the Congress itself was disappointing, the Exhibition in connection therewith appears to have been a great success. It was a striking illustration of the dimensions which geographical science has now attained. Maps and charts and globes ancient and modern we should of course expect to find; sextants and compasses also, as well as tents and hammocks, and other paraphernalia of the explorer. But besides the exhibits to which geography can lay special claim, nearly every other science was laid under contribution in one way or another. Geology and meteorology, botany and zoology, and ethnology, and even chemistry and physics, have been placed under levy to help in forming the multifarious departments to which geography now lays claim. This wide extension of a subject, which at one time had little claim to be considered scientific, has its advantages and disadvantages. It has reached its widest limits on the Continent, in Germany, where there are chairs of geography, whose professors, to judge from their programmes and their text-books, would require to be almost omniscient. If a student faithfully follows the course thus chalked out, he ought to end by having a fair knowledge of all the sciences. And it comes to be a question whether the same object might not be attained by beginning at the other end. Why, it may be asked, might not the student begin by acquiring a knowledge of the principles and facts of the sciences concerned, and apply them afterwards to the special subject of geography? At the same time, it must be confessed, to have a complete knowledge of the geography of the world, a little of everything is necessary; and the Continental conception of the subject is certainly preferable to the bald and dry idea entertained of it in this country, as exhibited in most of our text-books. Happily better things may be looked for in the future with the use of such text-books as Green's "Geography of the British Isles," and the late Keith Johnston's Geographical Handbook. While geography thus levies tribute on all the sciences, it must be admitted that in return she largely pays back her debt in the multitude of new data brought home by the best of her pioneers. Unfortunately all explorers do not start with that knowledge of the sciences which would greatly increase their observing capacity. Every explorer is not a Livingstone or a Holub, a Prejevalsky or a Maclay; and for such especially, as also for missionaries, a course of geography similar to that which prevails at the German Universities would be a decided advantage. For practical, and especially for school purposes, it is well that some limit should be defined as to

the sphere of geography; the happy medium has, we think, been well struck by M. Elisée Réclus in his magnificent "Géographie Universelle," which, when complete, will no doubt form a mine for compilers of text-books.

One of the most valuable recent developments of geography is seen in the scheme conceived by the late Lieut. Weyprecht, for the establishment of a ring of Polar observatories. This is now close upon being an accomplished fact, as will be seen from the account we gave of the recent meeting of the International Polar Congress at St. Petersburg. As our readers are no doubt aware, many Arctic authorities are of opinion that the days of great and expensive national Polar expeditions are past, and that the money thus spent would be put to much better use by being devoted to the carrying on of a continuous series of observations. At various points around the Arctic area observatories will be established as near as practicable to the Pole, where a continuous series of observations will be taken, according to a common pre-arranged plan. These observations will be connected with meteorology in all its departments, with terrestrial magnetism, the aurora borealis, atmospheric electricity, the movements of the ice, biology, combined with geographical exploration where practicable. After a year or two of such observations we may then be able to compare and co-ordinate Polar conditions with those which prevail in regions further south. A vast array of data must necessarily be accumulated that cannot but be turned to valuable account by science. Our knowledge of the meteorology of the temperate zone can never be complete until we are well acquainted with Arctic conditions, and thus the work to be done at these observatories will have an important practical bearing. Not only so, but it is maintained that it is only when we have the knowledge which will be collected at these stations that we shall be in a condition to send out an expedition for the Pole itself with anything like scientific assurance of success. We cannot but regret, then, that England has no share in the scheme. The countries forming the International Association are Russia, Germany, Norway and Sweden, Denmark, Austria, the United States, and we believe Canada; France and Switzerland lend it their countenance, and Lieut. Bove's Italian Antarctic expedition is to some extent affiliated to the Association. Stations are to be established on the north coast of Siberia, Novaya Zemlya, Spitzbergen, Jan Mayen Island, the west coast of Greenland, Lady Franklin Bay, and the neighbourhood of Behring Straits. The colony for Lady Franklin Bay, sent out by the United States, has already, we believe, reached its destination, and the others will probably be all at work next year.

While speaking of Arctic matters we must express our surprise at a journal like the *Pall Mall Gazette* talking of Polar exploration as a barren work. This of course depends on what one looks for in the way of results; if an immediate return in *£ s. d.* is looked for, the work is barren enough certainly, as barren as all purely scientific research seems at its first undertaking; though even the *Pall Mall Gazette* must admit that all the difference between the present and the past, materially and intellectually, is due to the ultimate results of this same barren work. And we are glad to see that Capt. Adams, the well-known Dundee whaler, again found time to take part in the

barren work of Arctic research while doing his best to fill his blubber tanks. He succeeded in sailing up Wellington Channel as far as has hitherto been done; visited the scene of the *Fury* and *Hecla* disaster, and brought home some interesting relics of the Franklin Expedition, as well as some additional information. He fell in with an Eskimo who remembers Crozier and his men, and from whom Capt. Adams seems to have obtained some additional information on the fate of the disastrous expedition. It cannot, however, amount to much after what has been done by the late Capt. Hall, and quite recently by Lieut. Schwatka; still, Capt. Adams deserves the greatest credit for attempting to increase our knowledge of the Arctic area at great risk to himself; he is evidently made of the right stuff. From the United States, we learn, an expedition is to be sent out as early as possible to endeavour to find the records of the Franklin expedition, which Capt. Hall always maintained would be found in the clefts of some rocks near the scene of the disaster. The results will be looked for with interest, and will at least tend to the promotion of knowledge. So also will the international search for the missing *Jeannette*, which it is rumoured may be undertaken next summer. The suggestion of Baron Nordenskjöld, deserving as it must be of every consideration, seems improbable; the bodies and the bottle of whisky found at the mouth of the Lena on September 13, 1879, could hardly have belonged to the *Jeannette*, which was seen steering for Wrangel Land on September 2—i.e. 1400 or 1500 miles away. Mr. B. J. Jenkins suggests that the *Jeannette* has been fortunate enough to get into open water not far from the Pole, and may turn up next year. There is no harm in hoping on to the last, as we are justified in doing after the experiences of the Austro-Hungarian Expedition.

What is the conception of geography entertained by our Geographical Society may be learned from the very interesting sketch of its history just published by Mr. Markham in connection with the jubilee of its foundation, which took place upwards of a year ago. The Geographical Society was founded on May 24, 1830. Its original objects were "to collect, digest, and publish interesting and useful geographical facts and discoveries; to accumulate a collection of books on geography, voyages, and travels, and of maps and charts; to keep specimens of such instruments as are most serviceable to a traveller, to afford assistance, instruction, and advice to explorers; and to correspond with other bodies or individuals engaged in geographical pursuits." All highly necessary and useful objects in connection with the advancement of knowledge. The Geographical Society absorbed the old African Association and the Palestine Club, and among its founders or first officers we find the names of Murchison, Robert Brown, Sir John Barrow, Admiral Smyth; and in its first list of Fellows some of the leading scientific men of the time. Mr. Markham complains that the Royal Society did so little for the promotion of geography before the Geographical Society came into existence; but it would have been beyond the functions of that Society to deal with the objects referred to above, and Mr. Markham admits that it really did a great deal to promote all that was most distinctly scientific in connection with geography. It must be admitted that the Geographical Society has very faithfully carried out its programme. It

soon became popular, and after it recovered from the results of bad management and extravagant expenditure, it rapidly increased in members and income, until now it is probably the most numerous, if not the most wealthy, learned society in the world. Admiral Smyth established its financial prosperity, and, as every one knows, Sir Roderick Murchison made it fashionable. It has now upwards of 3300 Fellows, and its receipts in 1880 amounted to 8600*l.*, while the Society's funded capital was 18,500*l.*, not to mention the value of its fine premises, library, maps, &c., in Savile Row. Notwithstanding all this material prosperity and its weakness for showing off travelling lions, the Geographical Society has really done much for the promotion of exploration and geography. Directly or indirectly it has been connected with all the expeditions of importance that have gone out from England since it was founded; it has encouraged exploration by grants of money amounting in the aggregate to a considerable sum; it has bestowed its medals and other rewards on explorers and geographers of various nationalities, all of them men who had really earned such honours; it has been of much service in instructing explorers in the technicalities of their business, and recently has established a sort of school for topographical observation; it has accumulated a valuable library and collection of maps, which are freely at the service of all who care to use them; and its *Journal* and *Proceedings* contain a vast amount of information, not simply relating to geographical exploration, but many of the papers relate to the more scientific aspects of geography. The Society has itself initiated or materially supported not a few expeditions of importance, one of the most productive being that which Mr. Joseph Thomson recently brought to so successful a conclusion. One of the most important functions undertaken by the Society is the yearly examinations in geography which it holds in connection with schools; and the papers set at these examinations are both comprehensive and scientific; in this direction the Society is doing really good work in the promotion of scientific geography. It may be remembered that the Council recently instituted an annual course of lectures on the more strictly scientific departments of geography, by men of acknowledged eminence in their subjects. Unfortunately the Council did not feel themselves encouraged to continue these lectures; but we venture to think³ they were too easily discouraged. Let them by all means have their fortnightly popular meetings during the season; but at the same time there is nothing to hinder them having also more esoteric meetings at stated intervals, at which original papers might be read or lectures given of a kind akin to those found so frequently in the proceedings of Continental geographical societies. In this way the Society would do much to encourage scientific geography, and be justified in claiming the rank of a really scientific society, which many of its well-wishers feel that it can hardly claim at present. Why, moreover, should the Council not at least lend their countenance to the great international scheme of Polar observatories, and take some steps to induce our Government to take an active share in the work? They might easily do this without in any way fettering their action in reference to those great Arctic expeditions to which some of them appear to be so partial.

The Society has shown itself remarkably liberal in the distribution of its medals; out of the 109 which have been awarded since its foundation, 37 have been given to foreign explorers and geographers. Mr. Markham gives a brief and interesting sketch of the great advances in geographical knowledge which have been made since the Society was founded, but shows at the same time how much remains to be done, even when we have obtained a rough knowledge of the whole of the earth's surface, while deep-sea research is yet only in its infancy. The little volume also contains an admirably-arranged list of papers in the *Journals* and *Proceedings* of the Society, covering nearly fifty pages; this, we believe, is the work of the librarian, Mr. Rye, and will be of the greatest value for reference.

Altogether it is evident that in recent years geography not only has made immense advances in the knowledge it has acquired of the "world and they that dwell therein," but has acquired a character which entitles it distinctly to be regarded as a department of science.

THE LATE A. H. GARROD'S SCIENTIFIC PAPERS

In Memoriam. The Collected Scientific Papers of the late Alfred Henry Garrod, M.A., F.R.S. (London: R. H. Porter, 1881.)

FEW customs are gaining greater ground at the present day than that of making the death of any man who, by his energy or talents, has raised his name a little above that of the unknown crowd, a reason for opening a subscription and calling upon all his friends and admirers to tax themselves to found a memorial commemorative of his career. It is first decided that there shall be a memorial, and then the question usually arises as to the form that it shall take. It very often happens that some person or some institution has a need at hand. The prosperity of a school, and indirectly of all connected with it, will be promoted if it has scholarships attached to it which will attract needy students. A window is wanted to complete the ornamentation of a church. Those interested in the church or school eagerly seize upon the opportunity which the hand of death has afforded, and suggest a fitting method of bearing testimony to the memory of the departed. Such memorials generally, after a few years, retain wonderfully little personal connection with him they are supposed originally to honour. The name remains, but the person is forgotten, unless preserved in remembrance for other and more cogent reasons.

Personal memorials of really eminent men, of those who have done good service to mankind, are of inestimable value. True records of their lives, their character, their works, their words, even of their features, afford encouragement and example to all who come after. By such memorials the whole world is enriched and its progress ensured. Among such we scarcely know of any more appropriate to its subject than that which has just been carried out by the Garrod Memorial Committee. It is a handsomely printed large octavo volume of 527 pages, containing an excellent portrait, a memoir, and a reproduction of all the important contributions to science made during the short but fruitful career of the extremely talented biolo-

gist whose loss we deplored almost exactly two years ago. The work contains, in a most convenient form for reference, a vast number of facts relating chiefly to the anatomy of birds and mammals, together with all the figures with which the several memoirs were originally illustrated, and a copious index. It has been ably edited, evidently as a labour of love, by Prof. Garrod's successor in the post of prosector to the Zoological Society, Mr. W. A. Forbes, with the assistance for the physiological portion of Prof. E. A. Schäfer. Mr. Garrod was all his life favourably circumstanced to a remarkable degree for pursuing biological research. He had from his earliest age the advantage of scientific associations and the best of educations, and was soon placed in an independent position, which enabled him to make the occupation of his life that which almost all others, even those holding most of the existing scientific appointments, can only do in snatches of time saved from the educational or administrative duties connected with their offices. Of all these advantages he fully availed himself; but considering he was only thirty-three years old at the time of his death, the amount of his already-published work when collected together is surprising, and causes the greater regret that he was not spared to continue what he had so well begun, especially as his editor tells us of the immense amount of material in notes and drawings which he had accumulated, besides that which was in a sufficiently finished state to see the light.

In these days, when so much is being said about the encouragement of scientific research, and so many experiments are being tried, both with public and private money, as to the best means of promoting this end, we cannot help making the reflection, before concluding our notice of this volume, on the great results that may follow a small expenditure judiciously and steadily devoted for a series of years to one object. If the Zoological Society had not in 1865 established its prosectorship, we should have seen little of the really solid advances in our knowledge of the anatomy of the two higher classes of vertebrated animals contained in the valuable memoirs of Dr. Murie, those collected in the present volume, and those now in the course of publication by Mr. Garrod's successor in the office.

THE DIAMONDS, COAL, AND GOLD OF INDIA

The Diamonds, Coal, and Gold of India. By V. Ball, F.G.S. 12mo. (London: Trübner, 1881.)

IN this handy little volume the author presents us with a compendium of the facts known concerning the occurrence and distribution of the three principal mineral products of India. The work being so designed that it may be used as a handbook to the detailed accounts published by the Geological Survey of India and by other authorities in numerous scattered publications to which full references are given. In the first chapter the different localities producing diamonds, including both active and abandoned mines, are noticed in some detail. These are grouped into three areas, the most southerly being that to which the name of Golconda is usually applied, although, as the author points out, that town is not actually in a diamond producing district, but was the staple place where the product of the district was bought and sold.